Utah Lake Water Quality Study

March 30, 2017

Division of Water Quality
Utah Department of Environmental Quality

Utah Lake Water Quality Study

Purpose

- Evaluate the role of excess nutrients on beneficial use impairments
- Identify appropriate in-lake nutrient endpoints
- Funded with $1 million from Water Quality Board

Driving Factors

- Continuation of previous studies
- Nutrient related 303(d) impairments
- Recent HAB events
- Regulatory certainty

Preliminary Study Questions

Nutrient Dynamics

- How are nutrients linked to algal blooms, dissolved oxygen, ammonia, and other water quality concerns in Utah Lake?
- What are the roles of internal lake processes, weather, and water management on nutrient cycling and algal blooms?

Loading Characteristics

- What is the origin, timing, and magnitude of nutrient loading to Utah Lake?
- How do nutrient loads to Utah Lake translate into downstream effects in the Jordan River and Great Salt Lake?

Costs and Benefits

- How much will it cost for communities in Utah County to reduce nutrients from wastewater, stormwater, and agricultural runoff?
- What are the economic and social costs of Harmful Algal Blooms?
- What are the benefits to the fishery, recreational users, and development opportunities community of improved water quality in Utah Lake?

Phase 1 Project Status

Data and information management

- Coordination of monitoring activities (spring-fall)
- Data compilation and database development
- Literature Review and synthesis
- Baseline data characterization

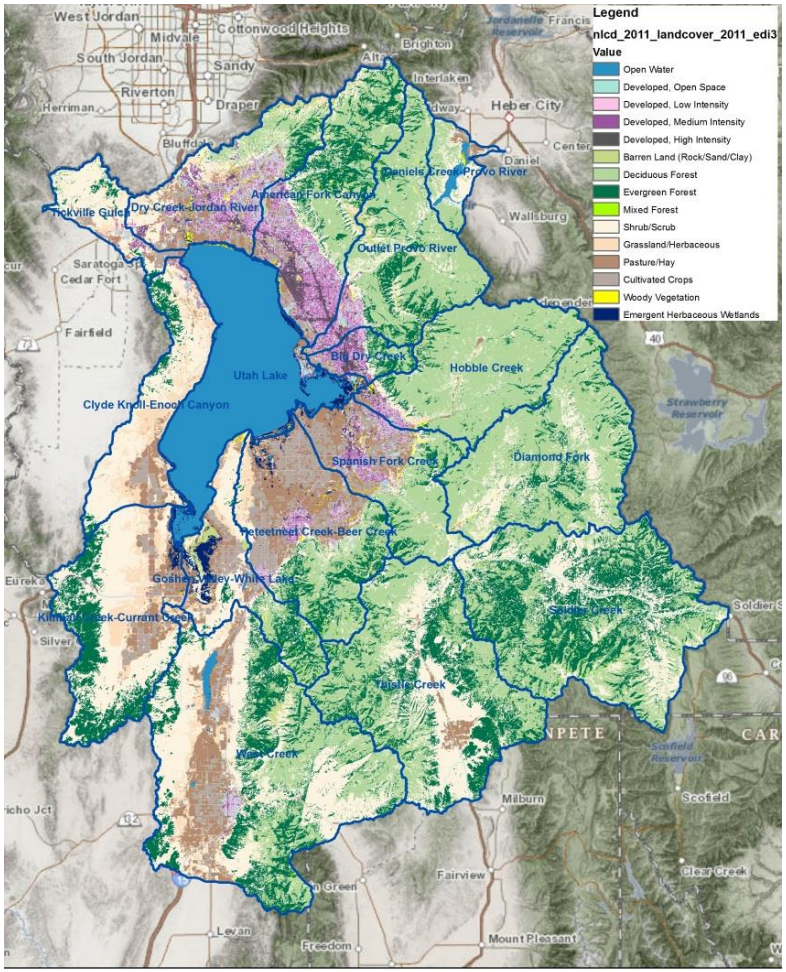
Designated Beneficial Use Assessment

Source and nutrient load analysis

- Updated point source loads with 2016 data
- Estimated stormwater loads
- EPA Technical Assistance Grant

Model Selection and Development

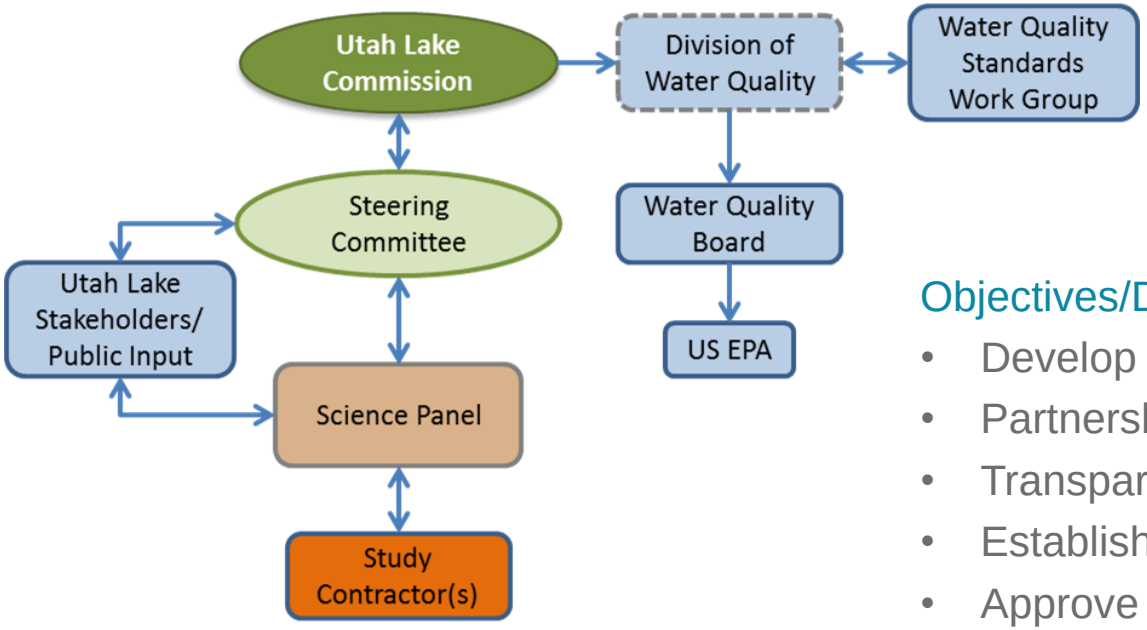
- Water Quality Analysis Simulation Program (WASP)
- Environmental Fluid Dynamic Code (EFDC)
- University of Utah EPA STAR grant



Steering Committee

Purpose:

Develop recommendations for an necessary in-lake water quality criteria that are protective of designated uses and sustain natural resources of Utah Lake



Objectives/Duties

- Develop formal study goals and objectives
- Partnerships among stakeholders
- Transparent public process
- Establish science panel
- Approve research work plans from Science Panel
- Recommend water quality criteria to Commission and WQB

Steering Committee Membership

Stakeholder Interest	Affiliation
Utah Lake Commission	Utah Lake Commission (Executive Director)
Water quality	Utah Div. of Water Quality (Deputy Director)
Recreation, fishing, and sovereign lands	Utah Department of Natural Resources
Agriculture/ water rights/ Secondary water users	Utah Lake Water Users Association
Fish and Wildlife	U.S. Fish & Wildlife Service
Agriculture	Utah Conservation Commission Zone 3
Public health	Utah County Health Department
Recreation	Recreational club, anglers, hunters, or business
Conservation and environment	Environmental or conservation organization
Water management of Utah Lake	Central Utah Water Conservancy District or appropriate water manager
Stormwater	Utah County
Publically Owned Treatment Works	Municipal or District
Municipal	City Mayor or designee
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Municipal	City Mayor or designee
Academia	University Researcher

- 16 member panel (1 vote per panel)
- Supermajority required for final recommendations
- Procedural issues require a quorum
- Majority and minority opinions

Science Panel

Purpose:

Guide water quality criteria development by overseeing targeted scientific studies

Objectives/Duties

- Recommend and guide scientific studies
- Identify gaps in scientific understanding
- Review and approve study work plans
- Review scientific findings and develop process for independent peer review
- Address scientific uncertainty
- Recommend water quality criteria to Steering Committee

Composition

- 5 to 7 member panel that reflects relevant scientific disciplines
- Unbiased, objective, and disclose conflicts of interest

Decisions

- Majority of vote to foreword recommendations
- Majority and minority opinion
- Procedural issues requires a quorum (2/3)

Next Steps

Timeline

- March 15, 2017 – ULC Technical Committee meeting
- March 23, 2017 – ULC Governing Board meeting
- April 7, 2017 – DWQ finalize charter document
- April 2017 – Utah Lake Commission vote on resolution to support process
- April 2017 – Seat Steering Committee
- May/June – Steering Committee kick off meeting

Discussion

https://deq.utah.gov/locations/U/utahlake/workgroup.htm

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